



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,640	11/24/2003	Koji Shigemura	0096.1037	1164
49455 7590 03/24/2009 STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005				
EXAMINER				
WALFORD, NATALIE K				
ART UNIT		PAPER NUMBER		
2879				
MAIL DATE		DELIVERY MODE		
03/24/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/718,640

**Applicant(s)**

SHIGEMURA ET AL.

**Examiner**

NATALIE K. WALFORD

**Art Unit**

2879

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 and 49-56 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 24, 25, 31-33 and 39-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10, 11, 15, 16, 34, 35 and 49-56 is/are rejected.
- 7) ☒ Claim(s) 12-14, 17-23, 26-30 and 36-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

The Response, filed on February 18, 2009, has been entered and acknowledged by the Examiner. Claims 1-41 and 49-56 are pending in the instant application.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 51 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 51, the claim limitation “the dummy aperture prevents the main aperture from being deformed” is rendered unclear and indefinite. It is not understood how the dummy aperture prevents the main apertures from being deformed. What exactly does the dummy aperture do such that the main aperture is not deformed? Hence, claim 51 is rendered indistinct and indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 10, 15, 34, and 49-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyauchi et al. (JP 2000-12238).

Regarding claim 1, Miyauchi discloses an evaporation mask formed of a thin film (item 300) in figure 9, wherein the evaporation mask is drawn taut by application of tension and comprises: at least one mask unit, comprising: a plurality of main apertures (item 301), and a plurality of first dummy apertures (item 302) formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask (paragraph 12).

Regarding claim 2, Miyauchi discloses the evaporation mask of claim 1, wherein the main apertures form an effective deposition area (paragraph 7), and the first dummy apertures form an ineffective deposition area (paragraph 7).

Regarding claim 4, Miyauchi discloses the evaporation mask of claim 2, comprising at least two mask units, and further comprising a plurality of second dummy apertures (item 302) formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask (paragraph 12).

Regarding claim 5, Miyauchi discloses the evaporation mask of claim 4, wherein the second dummy apertures are formed outside the effective deposition areas where the mask units are formed (paragraph 7).

Regarding claim 10, Miyauchi discloses a method of manufacturing an organic electroluminescent (EL) device in figure 9, the method comprising: forming first electrodes (item 101) on a substrate (item 100); disposing an evaporation mask (item 300) to form an organic film (item 103) over the substrate, the evaporation mask drawn taut by application of tension (paragraph 12) and having at least one mask unit, the mask unit comprising a plurality of main

apertures (item 301) and a plurality of first dummy apertures (item 302) formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask (paragraph 12); forming the organic film comprising an effective luminescent area to cover at least the first electrodes by evaporating (paragraph 16) an organic material containing an organic luminescent material (item 103) through the main apertures, and forming a first dummy pattern area (area around item 302) outside the effective luminescent area through the first dummy apertures; forming second electrodes (item 104) on the organic film so that the effective luminescent area is formed at an area where the first and second electrodes overlap; and sealing the resulting structure (see FIG. 9).

Regarding claim 15, Miyauchi discloses the method of claim 10, wherein in forming the second electrodes, an evaporation mask (item 300) to form the second electrodes is disposed over the substrate, the evaporation mask drawn taut by application of tension (paragraph 12) and having at least one mask unit, the mask unit comprising a plurality of main apertures (item 301) and a plurality of first dummy apertures (item 302) formed adjacent to the outermost main apertures in the direction in which tension is applied to the evaporation mask, the second electrodes are formed on the effective luminescent area through the main apertures (paragraph 16), and a second dummy pattern area is formed outside the effective luminescent area through the first dummy apertures.

Regarding claim 34, Miyauchi discloses a method of manufacturing an organic EL device in figure 9, the method comprising: forming first electrodes (item 101) on a substrate (item 100) in a predetermined pattern; forming an organic film (item 102) comprising an effective luminescent area to cover at least the first electrodes by evaporating an organic material

containing an organic luminescent material (item 102); disposing an evaporation mask (item 300) to form second electrodes (item 104) over the organic film, the evaporation mask drawn taut by application of tension (paragraph 12) and comprising a plurality of main apertures (item 301) and a plurality of first dummy apertures (item 302) formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask; forming the second electrodes through the main apertures so that the effective luminescent area is formed at an area where the first and second electrodes overlap (paragraph 16), and forming a second dummy pattern area outside the effective luminescent area through the first dummy apertures; and sealing the resulting structure (see FIG. 9).

Regarding claim 49, Miyauchi discloses an evaporation mask formed of a thin film (item 300) in figure 9, wherein the evaporation mask is drawn taut by application of tension (paragraph 12), the evaporation mask comprising: at least one mask unit comprising: at least one main aperture (item 301), and at least one first dummy aperture (item 302) formed adjacent to an outermost at least one main aperture in a direction in which tension is applied to the evaporation mask (see FIG. 4).

Regarding claim 50, Miyauchi discloses the evaporation mask of claim 49, further comprising at least one second dummy aperture (item 302) formed outside and adjacent to the outermost at least one mask unit in the direction in which tension is applied to the evaporation mask (paragraph 12).

Regarding claim 51, Miyauchi discloses a mask unit in figure 9 for an evaporation mask, comprising: a main aperture (item 301); and a dummy aperture (item 302); wherein the dummy

aperture prevents the main aperture from being deformed by tension applied to the evaporation mask.

Regarding claim 52, Miyauchi discloses the evaporation mask of claim 1, wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures (see FIG. 9).

Regarding claim 53, Miyauchi discloses the method of claim 10, wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures. (see FIG. 9)

Regarding claim 54, Miyauchi discloses the method of claim 34, wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures (see FIG. 9).

Regarding claim 55, Miyauchi discloses the evaporation mask of claim 49, wherein a length of each of the at least one first dummy aperture is equal to a length of each of the at least one main aperture (see FIG. 9).

Regarding claim 56, Miyauchi discloses the mask unit of claim 51, wherein a length of the dummy aperture is equal to a length of the main aperture (see FIG. 9).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6, 11, 16, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyauchi et al. (JP 2000-12238) in view of Nakagawara et al. (JP 2002-060927).

Regarding claim 3, Miyauchi discloses the evaporation mask of claim 2, but does not expressly disclose that at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures, as claimed by Applicant. Nakagawara is cited to show a mask in figure 1 with dummy apertures (item 3) that are formed parallel and perpendicular to main apertures (item 2). Nakagawara teaches that this pattern on the mask can absorb thermal expansion of the mask during formation (paragraph 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Miyauchi's invention to include at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures as suggested by Nakagawara for absorbing thermal expansion of the mask during formation.

Regarding claim 6, Miyauchi discloses the evaporation mask of claim 4, but does not expressly disclose that at least one of the second dummy apertures is formed parallel to the main apertures of the mask units, and at least another one of the second dummy apertures is formed perpendicular to the main apertures, as claimed by Applicant. Nakagawara is cited to show a mask in figure 1 with dummy apertures (item 3) that are formed parallel and perpendicular to main apertures (item 2). Nakagawara teaches that this pattern on the mask can absorb thermal expansion of the mask during formation (paragraph 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Miyauchi's invention to include at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first

dummy apertures is formed perpendicular to the main apertures as suggested by Nakagawara for absorbing thermal expansion of the mask during formation.

Regarding claim 11, Miyauchi discloses the method of claim 10, but does not expressly disclose that at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures, as claimed by Applicant. Nakagawara is cited to show a mask in figure 1 with dummy apertures (item 3) that are formed parallel and perpendicular to main apertures (item 2). Nakagawara teaches that this pattern on the mask can absorb thermal expansion of the mask during formation (paragraph 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Miyauchi's invention to include at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures as suggested by Nakagawara for absorbing thermal expansion of the mask during formation.

Regarding claim 16, Miyauchi discloses the method of claim 15, but does not expressly disclose that at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures, as claimed by Applicant. Nakagawara is cited to show a mask in figure 1 with dummy apertures (item 3) that are formed parallel and perpendicular to main apertures (item 2). Nakagawara teaches that this pattern on the mask can absorb thermal expansion of the mask during formation (paragraph 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Miyauchi's invention to include at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures as suggested by Nakagawara for absorbing thermal expansion of the mask during formation.

Regarding claim 35, Miyauchi discloses the method of claim 34, but does not expressly disclose that at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures, as claimed by Applicant. Nakagawara is cited to show a mask in figure 1 with dummy apertures (item 3) that are formed parallel and perpendicular to main apertures (item 2). Nakagawara teaches that this pattern on the mask can absorb thermal expansion of the mask during formation (paragraph 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Miyauchi's invention to include at least one of the first dummy apertures is formed parallel to the main apertures, and at least another one of the first dummy apertures is formed perpendicular to the main apertures as suggested by Nakagawara for absorbing thermal expansion of the mask during formation.

***Allowable Subject Matter***

Claims 12-14, 17-23, 26-30, and 36-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 12, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 12, specifically for the limitation of at least two organic EL devices are manufactured in a single process, and the evaporation mask comprises at least two mask units, through each of which the organic film of a single organic EL device can be deposited, and a plurality of second dummy apertures outside and adjacent to outermost ones of the mask units in the direction in which tension is applied to the evaporation mask in combination with other claimed features of the present claimed invention.

Regarding claims 13-14, claims 13-14 are allowable for the reasons given in claim 12 because of their dependency status from claim 12.

Regarding claim 17, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 17, specifically for the limitation of at least two organic EL devices are manufactured in a single process, and the evaporation mask comprises at least two mask units, through each of which the second electrodes of a single organic EL device can be deposited, and a plurality of second dummy apertures outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask in combination with other claimed features of the present claimed invention.

Regarding claims 18-19, claims 18-19 are allowable for the reasons given in claim 17 because of their dependency status from claim 17.

Regarding claim 20, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 20, specifically for the limitation of at least two organic EL devices are manufactured in a single process, the second electrodes are formed

using an evaporation mask drawn taut by application of tension and having at least two mask units, through which the second electrodes of the organic EL devices can be deposited, and the evaporation mask comprises a plurality of second dummy apertures outside and adjacent to outermost mask units in the direction in which tension is applied to the evaporation mask in combination with other claimed features of the present claimed invention.

Regarding claims 21-22, claims 21-22 are allowable for the reasons given in claim 20 because of their dependency status from claim 20.

Regarding claim 23, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 23, specifically for the limitation of at least two mask units each comprising a plurality of main apertures and a plurality of second dummy apertures formed outside and adjacent to outermost ones of the mask units in a direction in which tension is applied to the evaporation mask; forming the organic film comprising an effective luminescent area to cover at least the first electrodes by evaporating an organic material containing an organic luminescent material through the main apertures of each of the mask units; forming second electrodes on the organic film so that the effective luminescent area is formed at an area where the first and second electrodes overlap in combination with other claimed features of the present claimed invention.

Regarding claims 26-30, claims 26-30 are allowable for the reasons given in claim 23 because of their dependency status from claim 23.

Regarding claim 36, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 36, specifically for the limitation of at least two mask units, through each of which the second electrodes of a single organic EL device can

be deposited, and a plurality of second dummy apertures outside and adjacent to outermost ones of the mask units in the direction in which tension is applied to the evaporation mask in combination with other claimed features of the present claimed invention.

Regarding claims 37-38, claims 37-38 are allowable for the reasons given in claim 36 because of their dependency status from claim 36.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-41 and 49-56 have been considered but are moot in view of the new ground(s) of rejection.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Art Unit: 2879

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW

/Natalie K Walford/

Examiner, Art Unit 2879

/NIMESHKUMAR D. PATEL/

Supervisory Patent Examiner, Art Unit 2879